	Application No.	Applicant(s)
Notice of Allowability	09/672,675	THOMPSON, R. DONALD
	Examiner	Art Unit
	Neveen Abel-Jalil	2165

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *May 17, 2004*.

2. ☒ The allowed claim(s) is/are *1-14,24-27 and 29-46*.

3. ☒ The drawings filed on *9/29/2000* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

         3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

     *, Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

     (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

         1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

     (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

     Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

DETAILED ACTION

Remarks

1.   Applicant's request for reconsideration of the finality of the rejection of the last Office

action is persuasive and, therefore, the finality of that action is withdrawn.

2.   In response to the after-final amendment field on May 17, 2004, claims 15-23, and 28

have been cancelled. Claims 29-48 have been added. Therefore, claims 1-14, 24-27, and 29-48

are pending.

3.   The attached Examiner's amendment will include canceling claims 47-48. Therefore,

claims 1-14, 24-27, and 29-46 are now pending

EXAMINER'S AMENDMENT

4.   An examiner's amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the

payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with

Mr. Clint Feekes (Attorney of Record) on July 15, 2004.

5.   The application has been amended as follows:

Amendments the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listings of Claims:

Claim 1: (Original) A method in the computer system for correlating a subset of attributes to one or more payloads, the method comprising:

obtaining a request for payload corresponding to a subset of client attributes;

obtaining one or more payloads, wherein each payload defines a condition statement for delivering the payload;

correlating the condition statement into a catalog, wherein the catalog includes an attribute list, an evaluator list, a value list and a payload list;

traversing the catalog to determine one or more payloads corresponding to the subset of client attributes; and

returning the one or more payloads.

Claim 2: (Original) The method as recited in Claim 1, wherein the step of correlating the condition statement into a catalog includes:

generating an expression tree corresponding to the condition statement;

mapping the expression tree into an evaluation tree; and

mapping the evaluation tree into the catalog.

Claim 3: (Original) The method as recited in Claim 2 further comprising optimizing the expression tree prior to mapping the expression tree into an evaluation tree.

Claim 4: (Original) The method as recited in Claim 3, wherein the step of optimizing the expression tree includes:

organizing the expression tree such that an attribute evaluator value expression is a leaf node and a connector is a tree node;

scoring any tree nodes, wherein a disjunctive tree node score equals the sum of its subtree, wherein a conjunctive tree node score equals the product of its subtree, and wherein each leaf node score equals one; and

for each level of the expression tree, organizing the nodes such that a right-most node has the highest score.

Claim 5: (Original) The method as recited in Claim 2, wherein the step of mapping the expression tree into an evaluation tree includes:

placing a lowest scoring leaf node as a topmost node of the evaluation tree;

placing conjunctive operations as right tree nodes;

placing disjunctive operations as left tree nodes; and

traversing the expression tree until each leaf node within the expression tree is mapped into the evaluation tree.

Claim 6: (Original) The method as recited in Claim 2, wherein the step of mapping the expression tree into the catalog includes:

storing a first attribute in the attribute list;

storing one or more evaluators corresponding to the first attribute in the evaluator list;

storing one or more values corresponding to each of the first attribute evaluators in a value list;

if any conjunctions exist, storing one or more identifiers of attribute evaluation value pairs corresponding to the first attribute value; and

if any payloads exist, storing one or more payloads corresponding to the first attribute value.

Claim 7: (Original) The method as recited in Claim 6 further comprising repeating the steps of storing data in the attribute list, the evaluator list, the conjunction list, and the value list for any conjunction listed in the first attribute conjunction list.

Claim 8: (Original) The method as recited in Claim 6 further comprising repeating the steps of storing data in the attribute list, the evaluator list, the conjunction list, and the value list for a second attribute in the evaluation tree.

Claim 9: (Original) The method as recited in Claim 6 further comprising repealing the steps of storing data in the attribute list, the evaluator list, the conjunction list, and the value list

for attribute evaluator value pairs identified the first attribute conjunction list, wherein the step of

storing data in an attribute list is done on a separate catalog data structure.

Claim 10: (Original) The method as recited in Claim 6, wherein the attribute list is a

master attribute list having a size less than all the possible attributes.

Claim 11: (Previously amended) The method as recited in Claim 1, wherein the step

traversing the catalog to determine one or more payloads corresponding to the subset of client

attributes includes;

   obtaining a first attribute from the subset of client attributes;

   if the first attribute is found in the attribute list, obtaining an evaluator from the evaluator

list and a value from the value list, wherein the evaluator and value form an evaluator/value set;

   if the first attribute satisfies the evaluator/value set, determining whether a conjunction

and a payload exist;

   if a conjunction exists, repeating the steps with a corresponding attribute identified in the

.conjunction; and

   if a payload exists, adding the payload to a master payload list.

Claim 12: (Original) The method as recited in Claim 11 further comprising repeating the

steps until the last evaluator in the first attribute evaluation list is examined.

Claim 13: (Original) The method as recited in Claim 12, wherein the repeating step is

done on a separate catalog data structure.

Claim 14: (Original) The method as recited in Claim 1, wherein the payload set is

advertisement media and wherein the client attributes are client profile data attributes.

Claims 15-23: (Canceled)

Claim 24: (Original) A computer-readable medium having computer-executable modules

for correlating payloads with a condition statement for delivering the payload, the modules or

comprising:

a master attribute module for storing a list of attributes;

an evaluator module, dynamically linked to the attribute module, and containing

evaluators corresponding to each attribute in the attribute list;

a value module, dynamically linked to the evaluator module, and containing values

corresponding to each evaluator in the evaluation module;

a payload module, dynamically linked to the value module, and containing payload sets

corresponding to each value in the value module, wherein the payload module may be empty;

and

a conjunction module dynamically linked to the value module and containing conjunction

sets corresponding to each value in the value module, wherein the conjunction list may be empty.

Claim 25: (Original) The computer-readable medium as recited in Claim 24 further comprising one or more attribute modules for storing additional attributes.

Claim 26: (Original) The computer-readable medium as recited in Claim 25, wherein the master attribute module list contains less than all the possible attributes.

Claim 27: (Original) The computer-readable medium as recited in Claim 25, wherein the payload set is advertisement content and when the attributes are client profile data attributes.

Claim 28: (Canceled)

Claim 29: (New) A computer-readable medium containing computer-readable instructions which when executed perform a method in a computer system for correlating a subset of attributes to one or more payloads, the method comprising:

obtaining a request for payload corresponding to a subset of client attributes;

obtaining one or more payloads, wherein each payload defines a condition statement for delivering the payload;

correlating the condition statement into a catalog, wherein the catalog includes an attribute list, an evaluator list, a value list, and a payload list:

traversing the catalog to determine one or more payloads corresponding to the subset of client attributes; and

returning the one or more payloads.

Claim 30: (New) A computer-readable medium as recited in Claim 29, wherein the step of correlating the condition statement into a catalog includes: .

generating an expression tree corresponding to the condition statement;

mapping the expression tree into an evaluation tree; and

mapping the evaluation tree into the catalog.

Claim 31: (New) A computer-readable medium as recited in Claim 30 further comprising optimizing the expression tree prior to mapping the expression tree into an evaluation tree.

Claim 32: (New) A computer-readable medium as recited in Claim 31, wherein the step of optimizing the expression tree includes:

organizing the expression tree such that an attribute evaluator value expression is a leaf node and a connector is a tree node;

scoring any tree nodes, wherein a disjunctive tree node score equals the sum of its subtree, wherein a conjunctive tree node score equals the product of its subtree, and wherein each leaf node score equals one; and

for each level of the expression tree, organizing the nodes such that a rightmost node has the highest score.

Claim 33: (New) A computer-readable medium as recited in Claim 30, wherein the step of mapping the expression tree into an evaluation tree includes:

placing a lowest scoring leaf node as a topmost node of the evaluation tree;

placing conjunctive operations as right tree nodes;

placing disjunctive operations as left tree nodes; and

traversing the expression tree until each leaf node within the expression tree is mapped

into the evaluation tree.

Claim 34: (New) A computer-readable medium as recited in Claim 30, wherein the step

of mapping the expression tree into the catalog includes:

storing a first attribute in the attribute list;

storing one or more evaluators corresponding to the first attribute in the evaluator list;

storing one or more values corresponding to each of the first attribute evaluators in a

value list;

if any conjunctions exist, storing one or more identifiers of attribute evaluation value

pairs corresponding to the first attribute value; and

if any payloads exist, storing one or more payloads corresponding to the first attribute

value.

Claim 35: (New) A computer-readable medium as recited in Claim 34 further comprising

repeating the steps of storing data in the attribute list, the evaluator list, the conjunction list, and

the value list for any conjunction listed in the first attribute conjunction list.

Claim 36. (New) A computer-readable medium as recited in Claim 34 further comprising repeating the steps of storing data in the attribute list, the evaluator list, the conjunction list, and the value list for a second attribute in the evaluation tree.

Claim 37: (New) A computer-readable medium as recited in Claim 34 further comprising repeating the steps of storing data in the attribute list, the evaluator list, the conjunction list, and the value list for attribute evaluator value pairs identified in the first attribute conjunction list, wherein the step of storing data in an attribute list is done on a separate catalog data structure.

Claim 38: (New) A computer-readable medium as recited in Claim 34, wherein the attribute list is a master attribute list having a size less than all the possible attributes.

Claim 39: (New) A computer-readable medium as recited in Claim 29, wherein the step traversing the catalog to determine one or more payloads corresponding to the subset of client attributes includes:

obtaining a first attribute from the subset of client attributes;

if the first attribute is found in the attribute list, obtaining an evaluator from the evaluator list and a value from the value list, wherein the evaluator and value form an evaluator/value set;

if the first attribute satisfies the evaluator/value set, determining whether a conjunction and a payload exist;

if a conjunction exists, repeating the steps with a corresponding attribute identified in the conjunction; and

if a payload exists, adding the payload to a master payload list.

Claim 40: (New) A computer-readable medium as recited in Claim 39 further comprising repeating the steps until the last evaluator in the first attribute evaluation list is examined.

Claim 41: (New) A computer-readable medium as recited in Claim 40, wherein the repeating step is done on a separate catalog data structure.

Claim 42: (New) A computer-readable medium as recited in Claim 29, wherein the payload set is advertisement media and wherein the client attributes are client profile data attributes.

Claim 43: (New) A communication medium having computer-executable modules for correlating payloads with a condition statement for delivering the payload, the modules comprising:

a master attribute module for storing a list of attributes;

an evaluator module, dynamically linked to the attribute module, and containing evaluators corresponding to each attribute in the attribute list;

a value module, dynamically linked to the evaluator module, and containing values corresponding to each evaluator in the evaluation module;

a payload module, dynamically linked to the value module, and containing payload sets corresponding to each value in the value module, wherein the payload module may be empty;

and

a conjunction module dynamically linked to the value module and containing conjunction

sets corresponding to each value in the value module, wherein the conjunction list may be empty:

Claim 44: (New) The communication medium as recited in Claim 43 further comprising

one or more attribute modules for storing additional attributes.

Claim 45: (New) The communication medium as recited in Claim 44, wherein the master

attribute module list contains less than all the possible attributes.

Claim 46: (New) The communication medium as recited in Claim 45, wherein the

payload set is advertisement content and when the attributes are client profile data attributes.

Claims 47-48: (Canceled)

Reasons for Allowance

6.   Claims 1-14, 24-27, and 29-48 are allowed over the prior art made of record.

7.   The following is a statement of reasons for allowance:

The prior art of record (Hertz -U.S. Pub. No. 2003/0037041 A1- and Chaudhuri et al. -

U.S. Patent No. 5,806,061) do not disclose, teach, or suggest the claimed limitations of (in

combination with all other features in the claim), correlating the condition statement into a

catalog, wherein the catalog includes an attribute list, an evaluator list, a value list and a payload

list; traversing the catalog to determine one or more payloads corresponding to the subset of

client attributes; and returning the one or more payloads, as claimed in Indepedent claims 1, and

29.

Claims 2-14, and 30-42 are allowed over the prior art made of record, because they are

dependent from the allowed independent claims 1, and 29, respectively.

The prior art of record (Hertz -U.S. Pub. No. 2003/0037041 A1- and Chaudhuri et al. -

U.S. Patent No. 5,806,061) do not disclose, teach, or suggest the claimed limitations of (in

combination with all other features in the claim), a master attribute module for storing a list of

attributes; an evaluator module, dynamically linked to the attribute module, and containing

evaluators corresponding to each attribute in the attribute list; a value module, dynamically

linked to the evaluator module, and containing values corresponding to each evaluator in the

evaluation module; a payload module, dynamically linked to the value module, and containing

payload sets corresponding to each value in the value module, wherein the payload module may

be empty; and a conjunction module, wherein the conjunction list may be empty, as claimed in

indepedent claims 24, and 43.

Claims 25-27, and 44-46 are allowed over the prior art made of record, because they are

dependent from the allowed independent claims 24, and 43, respectively.

Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for

Allowance."

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Neveen Abel-Jalil whose telephone number is 571-272-4074.

The examiner can normally be reached on 8:30AM-5: 30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jeffrey A. Gaffin can be reached on 571-272-4146. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JEFFREY GAFFIN
PATENT EXAMINER
CENTER 2100

Neveen Abel-Jalil
August 19, 2005